

ABSTRACT

The invention relates to video holograms and devices for reconstructing video holograms, comprising an optical system that consists of a light source, lens and the video hologram that is composed of cells arranged in a matrix or a regular pattern with at least one opening per cell, the phase or amplitude of said opening being controllable. The video holograms and devices for reconstructing the same are characterised in that holographic video representations of expanded spatial objects can be achieved in a wide viewing area in real time using controllable displays, whereby the objects are either computer-generated or created by different means. The space-bandwidth product (SBP) of the hologram is thus reduced to a minimum and the periodicity interval of the Fourier spectrum is used as a viewing window on the inverse transformation plane, through which the object is visible in the preceding space. The mobility of the viewer(s) is achieved by tracking the viewing window. The invention can be advantageously used in the television, multimedia, games and construction fields, in military and medical technology, in addition to other economic and social areas.